

Seabirds off Senegal, West Africa

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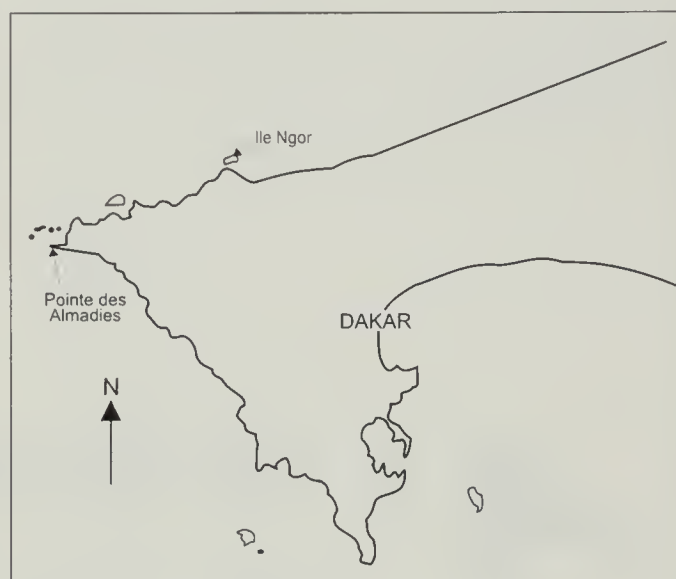
Les mouvements des oiseaux de mer à Dakar (Sénégal), la pointe occidentale de l'Afrique, ont fait l'objet de peu d'observations systématiques. Les premières de ce genre, faites par des observateurs français en automne 1990 et 1991, ainsi que celles d'un observateur britannique en octobre 1994, furent une révélation. Entre avril 1992 et novembre 1997, les auteurs ont effectué cinq visites à Dakar, dont une au printemps et quatre en automne. Ces visites ont révélé un passage printanier substantiel d'océanites, labbes, mouettes et sternes vers le nord, et un passage automnal très important d'une grande variété d'oiseaux de mer vers le sud. Ceux-ci furent observés de façon quotidienne à partir du littoral et à l'occasion de sorties en mer jusqu'à 25 km de la côte. Les observations les plus intéressantes furent sans doute celles de nombres importants de *Calonectris edwardsi* et de labbes du genre *Catharacta* considérés être *C. maccormicki*, dont la présence n'avait pas été détectée jusqu'alors. Des observations supplémentaires pourraient fournir des informations intéressantes concernant le statut, la répartition et les types de migration de maints autres oiseaux de mer.

Despite its location on the extreme western coast of Africa, Senegal has attracted attention from only a few intrepid seabird observers. This is surprising given the unique location of the capital, Dakar, on a low-lying peninsula, the tip of which projects 50 km out to sea from the main north-south line of the coast, offering exceptional opportunities for observations, especially in autumn. The results of our seawatching efforts, presented here, are relatively modest, yet significant. The potential is enormous, and one of the purposes of this paper is to stimulate more interest and observation. Dakar may prove to be one of the best seawatching locations on the eastern Atlantic seaboard. Prolonged observations from Cap Vert, at the western tip of the peninsula, could provide much valuable new information on the status and distribution of many seabirds where much remains to be learnt about their migration patterns.

Early observations

With the assistance of Dr W.R.P. Bourne, we have been able to trace a few accounts of observations prior to our first visit in April 1992. The earliest is an account of 25 hours seawatching in April 1968 by Gaston⁵, who recorded small numbers of unidentified shearwaters *Calonectris* spp. or *Puffinus* spp., skuas *Stercorarius* spp. (mostly Arctic *S. parasiticus*) and terns *Sterna* spp. (including some Roseate *S. dougallii*, 53 Royal *S. maxima* and 2,042 Black Tern *Cblidonias uiger*).

In February and March 1976, Brown⁴ made observations on seabird distribution off Senegal in the course of a hydrographic survey between there and the Cape Verde Islands, the nearest of which lies 460 km west of Senegal. The dominant species he observed offshore over the continental shelf included Pomarine Skua *Stercorarius pomarinus*, Great Skua *Catharacta skua*



The westernmost point of Senegal to show Pointe Des Almadies and Ile Ngor where spring and autumn seawatches were performed respectively

and Royal Tern, with Grey Phalarope *Phalaropus fulicarius*, Leach's Storm-petrel *Oceanodroma leucorhoa* and Madeiran Storm-petrel *O. castro*. Brown provides a useful list of 16 references from other observers who, as he puts it, 'have passed through the area, usually briefly' and which appear mostly to be of observations from boats. He also states that there have been brief notices in the journal *Sea Swallow*.

In 1990, French observers seawatched from Cap Vert for 40 hours between 28 August–9 December and in 1991 for 145 hours between 30 July–5 September². These appear to have been the first concerted autumn seawatches, and the results were a revelation.

The 1990 records included the first Bulwer's Petrel *Bulweria bulwerii* for Senegal (seven on one day) and the first records from land of Little Shearwater *Puffinus assimilis* (three on one day); the first and second

records of Mediterranean Shearwater *Puffinus (puffinus) mauretanicus*; 1,582 Sooty Shearwater *Puffinus griseus* which had previously been known as 'rather rare' off Senegal; 452 Grey Phalarope, 'the first time that such a passage has been noted in Senegal'; 104 Long-tailed Skua *Stercorarius longicaudus* which had been recorded only three or four times previously; 734 Sabine's Gull *Larus sabini* where 'previously only seen in very small numbers', in May; 100s of other *Stercorarius* skuas; 1,000s of terns of various *Sterna* species and 1,300 Black Tern; regular small flocks of Cory's Shearwater *Calonectris diomedea*; and one Great Skua.

The 1991 French team recorded totals of ten Mediterranean Shearwater, 756 Grey Phalarope, 24 Long-tailed Skua, four Great Skua, 3,500 Royal Tern, 17 Lesser Crested Tern *Sterna bengalensis*, 15,300 Arctic Tern *Sterna paradisaea* and 15,800 Black Tern.

Between 9–23 October 1991, G. Allport seawatched on five occasions on three days off Point des Almadies¹. In light north-westerly winds, he counted 1,000s of Sooty Shearwater, Pomarine Skua and terns passing; 100s of Cory's Shearwater and Arctic Skua; and smaller numbers of Grey Phalarope, Long-tailed Skua and Sabine's Gull. He also recorded one Bulwer's Petrel, four Manx Shearwater *Puffinus puffinus* and one Little Shearwater, five Gannet *Sula bassana*, three Great Skua and one Sooty Tern *Sterna fuscata*.

The authors' observations

We have made one spring and four autumn visits to Senegal between April 1992 and November 1997, combining seawatching from Cap Vert with pelagic trips in a game-fishing boat chartered from the Centre de Peche Sportive in Dakar. These visits stemmed from a one-day flying visit from The Gambia which DN, Frank Hamilton and Robin Jolliffe made on 23 November 1988 with Air Afrique, who run this game-fishing operation out of Dakar. The birds seen during a pelagic trip of just a few hours included 64 Cory's Shearwater, 21 Great Shearwater *Puffinus gravis*, 15 Pomarine Skua, one Long-tailed Skua and two Sabine's Gull, and were sufficient to convince them of the potential. In subsequent visits, we have also seawatched from Pointes des Almadies in spring, and from Isle Ngor in autumn (Figure 1 and see Appendix for access details).

Our pelagic trips have principally concentrated on an area south of Pointes des Almadies in spring and another north-west of Isle Ngor in autumn. During autumn visits, we encountered fishing trawlers on most trips with impressive concentrations of birds around them. All our pelagic observations were conducted within 25 km of land.

Table 1. Observer coverage

Year	Observers
21–28 April 1992	Robin Jolliffe, Tony Marr, Dick Newell, Sean Newell and Richard Porter
12–25 October 1995	Duncan Brooks, Dick Newell and Richard Porter
6–16 October 1996	Robin Jolliffe, Tony Marr, Dick Newell and Richard Porter
4–11 October 1997	Tony Marr and a Wildwings tour group
28 October–4 November 1997	Robin Jolliffe and Richard Porter

Table 2. Spring totals: 21–28 April 1992 (observer coverage given in parentheses)

Species	^a From land	^b At sea
Cory's Shearwater <i>Calonectris diomedea</i>	100	241
Sooty Shearwater <i>Puffinus griseus</i>	0	2
Wilson's Storm-petrel <i>Oceanites oceanicus</i>	0	1,259
European Storm-petrel <i>Hydrobates pelagicus</i>	0	276
Maderian Storm-petrel <i>Oceanodroma castro</i>	0	1
Red-billed Tropicbird <i>Phaethon aethereus</i>	0	6
Brown Booby <i>Sula leucogaster</i>	0	2
Gannet <i>Sula bassana</i>	29	31
Grey Phalarope <i>Phalaropus fulicarius</i>	0	1
Pomarine Skua <i>Stercorarius pomarinus</i>	23	746
Arctic Skua <i>Stercorarius parasiticus</i>	88	12
Long-tailed Skua <i>Stercorarius longicaudus</i>	3	24
<i>Catharacta</i> skua sp.	1	2
Sabine's Gull <i>Larus sabini</i>	22	220
Audouin's Gull <i>Larus audouinii</i>	1	0
Royal Tern <i>Sterna maxima</i>	421	5
Lesser Crested Tern <i>Sterna bengalensis</i>	8	4
Royal/Lesser Crested Tern	267	0
Sandwich Tern <i>Sterna sandvicensis</i>	272	43
Roseate Tern <i>Sterna dougallii</i>	87	9
Common Tern <i>Sterna hirundo</i>	1,580	301
Arctic Tern <i>Sterna paradisaea</i>	246	23
Common/Arctic Tern	762	84
Bridled Tern <i>Sterna anaethetus</i>	1	0
Little Tern <i>Sterna albifrons</i>	146	0
Black Tern <i>Chlidonias niger</i>	6,181	4,129

^a26 hrs on 8 days

^b33 hrs on 4 days

Table 1 shows the coverage and observers during our five visits; Table 2 the totals for the spring visit in April 1992; Table 3 the totals from land during the autumn visits; and Table 4 the totals at sea during the autumn visits.

Spring results

The April observations were notable for a northward passage of Wilson's Storm-petrel *Oceanites oceanicus*,



Bulwer's Petrel *Bulweria bulwerii*
by Craig Robson

European Storm-petrel *Hydrobates pelagicus*, one Madeiran Storm-petrel, 100s of *Stercorarius* skuas and Sabine's Gull, and 1,000s of terns, including 96 Roseate and over 10,000 Black Tern. A full account can be found in Marr & Porter⁷.

Autumn results

Autumn visits were made in October 1995, October 1996 and two in October and November 1997, and revealed a heavy southward passage of seabirds close inshore at Isle Ngor, principally comprising Sooty Shearwater, Pomarine Skua, Sabine's Gull and Black Tern, with well over 1,000 in a day on some occasions for each of these species. Additional species recorded included Wilson's and Leach's Storm-petrels, Bulwer's Petrel, Little and Great Shearwaters, Brown Booby *Sula leucogaster*, Audouin's Gull *Larus audouinii* and many 1,000s of *Sterna* terns of nine species. Perhaps the most interesting observations were of Cape Verde Shearwater and *Catharacta* skuas considered to be South Polar Skua, the presence of which had previously gone undetected. Both were recorded in significant numbers.

Comments on the most significant species

Bulwer's Petrel *Bulweria bulwerii*

All records were made between 5–17 October: one in 1995, six in 1996, and 12 in 1997. The first records were in 1990 and 1994 (see above). The species breeds on the Cape Verde Islands, with a population of probably not more than 100 pairs⁶.

Cory's Shearwater *Calonectris diomedea*

In April 1992, 100 *Calonectris* shearwaters seen from the land and 241 at sea were identified as this species. Early to mid-October observations have revealed that Cory's are much scarcer than Cape Verde Shearwaters at this time, with positive identifications of only 38 in

1995, and singles in 1996 and 1997. However, in late October and early November, Cory's were commencing southward migration. No fewer than 1,500 were counted on 3 November 1997, with 4,500 Cape Verde Shearwater, around a fishing trawler at sea. Positive identification from the shore has not always been possible, but most of the 4,585 *Calonectris* shearwaters seen passing south between 29 October–4 November 1997 were identified as this species. DN *et al* recorded 64 at sea on their exploratory trip on 23 November 1988.

Cape Verde Shearwater *Calonectris edwardsii*

This has traditionally been treated as a subspecies of Cory's Shearwater although it was originally described as a distinct species. Recently Hazevoet⁶ afforded it full species status based on the Phylogenetic Species Concept. We concur with this view, and have found from our 1995–1997 observations that it is quite distinctive, and relatively easily separated from Cory's at close to medium range. A full account of the field characters and a number of photographs, can be found in Porter *et al*⁹. *Calonectris* shearwaters may feed up to 500 km from their breeding grounds—the nearest point in the Cape Verde archipelago, where this bird breeds, is 460 km away. As the species is reportedly absent from its breeding islands between late November–late February⁶, birds in early October off Senegal may have been breeding adults with young at the nest, failed breeders or non-breeders. The largest daily numbers at sea, all around fishing trawlers, were 1,700 and 1,000 on 9 and 11 October 1996, and 4,500 on 3 November 1997. The total breeding population on the Cape Verde Islands was estimated at c.10,000 pairs in 1988–1993⁶.

Great Shearwater *Puffinus gravis*

On 23 November 1988, DN *et al* recorded 21 at sea during their exploratory trip. A further ten birds were recorded in autumn. From land, singles were seen on 13 and 18 October 1995, and at sea there were singles on 7 and 11 October 1996, two on 9 October 1996 and four on 3 November 1997.

Sooty Shearwater *Puffinus griseus*

Just two recorded in spring, flying north on 22 April 1992. In autumn, one of the most numerous south-bound species, as is evident from Tables 3 and 4. The highest daily totals in autumn each year were 328 on 24 October 1995, 1,765 on 6 October 1996, and 1,315 on 30 October 1997. Most large-scale movements have been during north-westerly winds.

Little Shearwater *Puffinus assimilis*

Table 3 gives the totals recorded each autumn, all from land. In October 1996, when the largest numbers were recorded, the daily maxima were 13 and 17 on 10 and

12 October. All were of the race *boydi* which breeds on the Cape Verde Islands, where the population is probably several 1,000s⁶.

Wilson's Storm-petrel *Oceanites oceanicus*

In April 1992 all records were at sea, with 1,259 passing north on four days, the maximum being 615 on 25 April. Autumn records were from both land (maximum 54 on 30 October 1997) and at sea (maximum 104 on 11 October 1996).

Leach's Storm-petrel *Oceanodroma leucorhoa*

This species tended to appear later than Wilson's and European Storm-petrels in autumn (none in spring), with 48 at sea in 1995 between 12–21 October (maximum 22 on 16 October); one at sea on 10 October 1997; 40 from land between 29 October–2 November 1997 (with a peak of 22 on 29 October); and three at sea on 3 November 1997.

Madeiran Storm-petrel *Oceanodroma castro*

Singles were recorded as follows: flying north at sea on 22 April 1992; flying west on 31 October 1997 from land; and at sea on 3 November 1997. The species breeds on the Cape Verde Islands, where the total population may not exceed 1,000 pairs⁶.

Red-billed Tropicbird *Phaethon aethereus*

Six recorded at sea in April 1992 and two observed at sea in each of October 1995, 1996 and 1997. All records were of birds around L'Isle des Madeleines on the west side of Dakar, where it breeds. However, singles were seen from Isle Ngor on 30 October and 1 and 4 November 1997, all flying south.

Brown Booby *Sula leucogaster*

In spring, singles at sea, on 22 and 27 April 1992. Autumn records all from land, with singles on 13 and 15 October 1995, 10 October 1996 and 29 October 1997, with two on 30 October 1997. The species breeds



Little Shearwater *Puffinus assimilis*
by Craig Robson

Table 3. Autumn totals. Land-based observations (observer coverage given in parentheses). Totals in [] indicate possible identifications only.

Species	^a 1995	^b 1996	^c 1997 (1)	^d 1997 (2)
Bulwer's Petrel <i>Bulweria bulwerii</i>	1	6	9	0
Cory's Shearwater/Cape Verde Shearwater <i>Calonectris diomedea/C. edwardsii</i>	186	1,604	0	4,585
Great Shearwater <i>Puffinus gravis</i>	2	0	0	0
Sooty Shearwater <i>Puffinus griseus</i>	1,716	4,802	1,031	3,701
Manx Shearwater <i>Puffinus puffinus</i>	17	24	55	0
Mediterranean Shearwater <i>Puffinus (puffinus) mauretanicus</i>	[2]	1	1	0
Little Shearwater <i>Puffinus assimilis</i>	17	56	2	16
Wilson's Storm-petrel <i>Oceanites oceanicus</i>	1	48	2	63
Leach's Storm-petrel <i>Oceanodroma leucorhoa</i>	0	0	0	40
Madeiran Storm-petrel <i>Oceanodroma castro</i>	0	0	0	1
Red-billed Tropicbird <i>Phaethon aethereus</i>	0	0	2	3
Brown Booby <i>Sula leucogaster</i>	2	1	0	3
Gannet <i>Sula bassana</i>	3	21	4	25
Grey Phalarope <i>Phalaropus fulicarius</i>	2	158	72	3
Pomarine Skua <i>Stercorarius pomarinus</i>	3,025	3,740	119	6,233
Arctic Skua <i>Stercorarius parasiticus</i>	814	1,093	669	476
<i>Stercorarius skua</i> sp.	209	0	0	0
Long-tailed Skua <i>Stercorarius longicaudus</i>	10	162	144	55
<i>Catharacta skua</i> sp.	145	180	10	125
Little Gull <i>Larus minutus</i>	0	1	0	0
Sabine's Gull <i>Larus sabini</i>	824	3,356	235	245
Black-headed Gull <i>Larus ridibundus</i>	0	1	0	0
Grey-headed Gull <i>Larus cirrocephalus</i>	0	0	2	0
Audouin's Gull <i>Larus audouinii</i>	132	280	0	20
Lesser Black-backed Gull <i>Larus fuscus</i>	2	12	4	0
Yellow-legged Gull <i>Larus (argentatus) cachinnans</i>	0	1	0	0
Caspian Tern <i>Sterna caspia</i>	3	9	2	1
Royal Tern <i>Sterna maxima</i>	169	65	51	0
Lesser Crested Tern <i>Sterna bengalensis</i>	30	6	194	10
Royal/Lesser Crested Tern	95	2	0	0
Sandwich Tern <i>Sterna sandvicensis</i>	901	126	1,206	68
Roseate Tern <i>Sterna dougallii</i>	0	29	13	7
Common Tern <i>Sterna hirundo</i>	508	2,049	6,454	450
Arctic Tern <i>Sterna paradisaea</i>	47	1,446	355	239
Common/Arctic Tern	3,554	511	0	0
Bridled Tern <i>Sterna anaethetus</i>	0	6	0	0
Little Tern <i>Sterna albigrons</i>	28	143	18	14
Black Tern <i>Chlidonias niger</i>	4,303	23,923	4,849	862

^a1995 (105 hrs on 14 days) ^b1996 (78 hrs on 11 days)
^c1997 (48 hrs on 8 days) ^d1997 (64 hrs on 8 days)

on the Cape Verde Islands, with a population not exceeding c1,000 pairs⁶.

Pomarine Skua *Stercorarius pomarinus*

The spring total of 769 between 21–28 April 1992 involved 678 birds travelling steadily northwards and

91 feeding at sea. Passage was of single birds or very small groups, unlike the substantial flocks seen in spring in British and Irish waters; the largest day total was 282 on 23 April. Most birds at sea were 7-20 km from shore; only 23 were recorded during seawatches, the maximum being 15 on 24 April.

Autumn passage seen from land (see Table 3) was steady and at times dramatic, with some large daily totals, all of birds flying south: 521 on 20 October and 437 on 24 October 1995; 1,383 on 10 October and 897 on 12 October 1996; and 3,199 on 1 November (including 1,424 in 1.5 hrs in the early morning), with 845 on 2 November (recorded throughout the day) and 887 on 3 November 1997 (in only 2.5 hrs watching at dawn and dusk). The largest movements were during north-westerly winds. Most birds at sea in autumn (see Table 4) were feeding around fishing trawlers, the largest gathering being 200 on 3 November 1997, 20 km from the coast. The largest flock seen passing the coast consisted of 52 birds. Passage was rarely nearer than 500 m from land, whereas Arctic Skuas were usually closer inshore.

Long-tailed Skua *Stercorarius longicaudus*

In spring, 27 passed north between 21–28 April 1992, of which 24 were at sea and included 18 on 22 April; over 75% were adults. Autumn birds, conversely, were principally seen from shore, and only c10% were adult. Table 3 shows the annual autumn totals from land; highest day counts being five on 13 October 1995, 70 on 14 October 1996, and 73 on 9 October and 36 on 1 November 1997. Birds mostly passed in singles or small groups of up to three, occasionally with Arctic or Pomarine Skuas. Immatures presented some challenging identification problems which we can now tackle with more confidence than when we started these watches. The variations in plumage of juvenile and other immature birds in autumn is surprising, and flight action and jizz are very important in separating them from Arctic Skua.

skua sp. *Catharacta*

Earlier observers recorded Great Skua off Senegal and we recorded three in April 1992. A further 160 *Catharacta* skuas were recorded in October 1995, all of which we suspected as being South Polar Skua, which was confirmed through consultation with Klaus Malling Olsen, Killian Mullarney and Bill Bourne. In 1996, a further 198 similar birds were seen and in 1997, on our two trips, another 140 individuals. Most were seen from shore and were heading purposefully south in flocks of up to 12. In an earlier paper⁸, we suggested that some, if not all, of these birds were South Polar

Table 4. Autumn totals. Pelagic observations (observer coverage given in parentheses).

Species	^a 1995	^b 1996	^c 1997 (1)	^d 1997 (2)
Bulwer's Petrel <i>Bulweria bulwerii</i>	0	0	3	0
Cory's Shearwater <i>Calonectris diomedea</i>	38	1	1	1,500
Cape Verde Shearwater <i>Calonectris edwardsii</i>	0	2,785	189	4,500
Cory's Shearwater/Cape Verde Shearwater	0	0	0	600
Great Shearwater <i>Puffinus gravis</i>	0	4	0	4
Sooty Shearwater <i>Puffinus griseus</i>	40	243	17	9
Manx Shearwater <i>Puffinus puffinus</i>	1	3	0	2
Wilson's Storm-petrel <i>Oceanites oceanicus</i>	171	282	116	20
European Storm-petrel <i>Hydrobates pelagicus</i>	14	12	9	12
Leach's Storm-petrel <i>Oceanodroma leucorhoa</i>	48	0	1	3
Madeiran Storm-petrel <i>Oceanodroma castro</i>	0	0	0	1
Red-billed Tropicbird <i>Phaethon aethereus</i>	2	2	2	0
Gannet <i>Sula bassana</i>	0	1	0	0
Grey Phalarope <i>Phalaropus fulicarius</i>	2	2	1	0
Pomarine Skua <i>Stercorarius pomarinus</i>	184	339	21	220
Arctic Skua <i>Stercorarius parasiticus</i>	9	6	14	0
Long-tailed Skua <i>Stercorarius longicaudus</i>	12	4	8	0
<i>Catharacta</i> skua sp.	15	18	3	2
Sabine's Gull <i>Larus sabini</i>	20	144	14	5
Audouin's Gull <i>Larus audouinii</i>	1	9	0	2
Lesser Black-backed Gull <i>Larus fuscus</i>	0	4	0	0
Caspian Tern <i>Sterna caspia</i>	0	0	0	1
Royal Tern <i>Sterna maxima</i>	0	1	2	0
Lesser Crested Tern <i>Sterna bengalensis</i>	0	0	4	0
Sandwich Tern <i>Sterna sandvicensis</i>	0	14	15	0
Roseate Tern <i>Sterna dougallii</i>	0	29	13	7
Common Tern <i>Sterna hirundo</i>	6	504	10	57
Arctic Tern <i>Sterna paradisaea</i>	5	6	2	0
Common/Arctic Tern	36	0	0	0
Black Tern <i>Chlidonias niger</i>	219	217	58	15

^a1995 (40 hrs on 5 days) ^b1996 (21 hrs on 3 days)

^c1997 (22 hrs on 3 days) ^d1997 (5 hrs on 1 day)

Skua. This has generated some debate, with suggestions that some of the birds might be immature Great or even Brown Skuas, and at the time of writing we are gathering data and photographs to try to confirm the identifications. If nothing else, our observations have alerted observers to the presence of considerable numbers of *Catharacta* skuas off Senegal and is leading to a stimulating reappraisal of many of the identification criteria of this complex and difficult group. Additional observations would be very helpful.

Sabine's Gull *Larus sabini*

In spring 1992, a total of 242 was recorded moving north (see Table 2), of which the largest day total was 76 at sea on 22 April. In autumn large numbers passed south along the coast, with relatively few seen at sea

(see Tables 3 and 4). Some day totals were impressive: 193 and 156 on 15 and 21 October 1995; 804, 1,107 and 932 on 6, 10 and 12 October 1996; and 153 on 9 October and 146 on 1 November 1997. Heaviest passage occurred in north-west winds. Some sampling, between 4–11 October 1997, of the ratio of adults to juveniles suggested that only c10% were juveniles. The largest flock recorded was of 60 birds passing relatively close inshore on 10 October 1996.

Audouin's Gull *Larus audouinii*

In spring, one seen from land, flying north on 26 April 1992. In autumn several hundred were flying south from shore (see Table 3) but only 12 were seen in total at sea (see Table 4). Highest day totals for each year were 34 on 24 October 1995; 77 on 10 October 1996 and nine on 1 November 1997. Nearly all were immatures.

[Kelp Gull *Larus dominicanus*

Immature gulls, considered to be of this species, were recorded from Isle Ngor as follows: three on 14 October 1995 and one on 6 October 1996.]

Terns *Sterna* and *Chlidonias* spp.

Terns pass in huge numbers at both seasons (see Tables 2, 3 and 4), with **Black Tern** being the most numerous at both seasons eg 2,271 flew north and 1,100 were feeding offshore on 28 April 1992, while 12,645 passed south on 12 October 1996. In autumn, terns were mostly passing over the sea in front of the Isle Ngor (see Figure 2) but on some days numbers were observed flying between the island and the mainland, and many could have been missed in this way. In 1996, we observed boys on surfboards catching **Sandwich Tern** *Sterna sandwicensis* on baited hooks as they fished in the channel behind Isle Ngor, which was reported to the Senegalese Ambassador in London; he



Sabine's Gull *Larus sabini*
by Craig Robson

gave us assurances that steps would be taken to stop this, and we saw no such activity in 1997. The spring total of **Roseate Tern** was encouragingly high in 1992 with 96 flying north (see Table 2) but autumn totals have been much lower than this (see Table 3). One **Bridled Tern** *Sterna anaethetus* was recorded flying north on 28 April 1992, and in autumn 1996 six flew south, five on 12 October and one on 14 October. The species has recently bred on L'Isle des Madeleines, near Dakar³, but does not breed on the Cape Verde Islands.

Direction of passage

Most birds in spring were passing north, except some which paused to feed off the coast or around boats. In autumn, birds passing Isle Ngor appeared to follow the coast and were heading west or west-south-west as they passed. Many birds seen from boats continue in this direction on reaching Pointe des Almadies. However, their true direction is doubtless south, distorted by the angle of the African coast at this point.

Effect of wind direction

In April 1992, northward passage was into a north wind between Force 2–5 (Beaufort Scale). In autumn, the largest movements were of birds heading west or west-south-west past Isle Ngor in north-westerly winds, sometimes of only Force 1–2. Heaviest passage was in October 1996; the greatest numbers on days of north-west winds. The period 4–11 October 1997 was characterised by winds between north and east (usually north-east) and far lower totals were recorded in that week than between 28 October–4 November 1997, when winds were mostly north-west to north. On many days with north-west winds, the passage of species such as Sooty Shearwater, Pomarine Skua, Sabine's Gull and Black Tern has been so spectacular that 3–4 observers have been hard-pressed to count and record totals for these and other birds pouring past.

Conclusions

Undoubtedly the western point of Africa at Dakar in Senegal is an important location for viewing spring and autumn passage of shearwaters, petrels, skuas, gulls and terns. The topography of the coast is ideal for observing southbound autumn movement, with an unrestricted north-facing coast providing optimum observation conditions from Isle Ngor. Northbound spring passage is harder to observe, as a large reef, a wreck and a lighthouse 1.5 km off Point des Almadies cause many birds to pass further out. Pelagic trips have added to our knowledge of the species which pass, or feed offshore and out of sight of land, and the presence of fishing trawlers in autumn has been beneficial to our

observations¹. The most favourable winds for viewing passage have been from the north-west. Further observations are required to provide additional information on the status, distribution and migration patterns of many seabird species. ²

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^aTwo Hoots, Old Hall Farm Barns, Cley next the Sea, Norfolk NR25 7SF, UK.

^bOld Beach Farm, Green End, Landbeach, Cambridgeshire CB4 4ED, UK.

^cc/o RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL, UK.

Appendix

Isle Ngor was chosen for autumn watching, in preference to the grounds of the Hotel Presidente, used by other observers, as birds were discovered to pass much closer to the Isle than to the mainland coast. Isle Ngor is approached via a minor road leading to the north from the road between the international airport and Pointe des Almadies and about halfway between the two. Frequent public passenger boats run throughout the day from the beach 250 m west of the Hotel Ngor, a large sandy coloured building visible from some miles distance.



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Marsh Wren
by Terry O'Nele



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- 1 Flock of Sabine's Gull *Larus sabini* off Dakar, Senegal, April 1992 (B.A.E. Marr)
- 2 Wilson's Storm Petrel *Oceanites oceanicus*, at sea off Isle Ngor, Dakar, Senegal, October 1997 (B.A.E. Marr)
- 3 Wilson's Storm Petrels *Oceanites oceanicus*, at sea off Isle Ngor, Dakar, Senegal, October 1997 (B.A.E. Marr)
- 4 Cape Verde Shearwater *Calonectris edwardsii*, at sea off Isle Ngor, Dakar, Senegal, October 1997 (B.A.E. Marr)
- 5 Pomarine Skua *Stercorarius pomarinus*, at sea off Isle Ngor, Dakar, Senegal, October 1997 (B.A.E. Marr)
- 6 Cape Verde Shearwater *Calonectris edwardsii*, at sea off Isle Ngor, Dakar, Senegal, October 1997 (B.A.E. Marr)
- 7 Fishing trawler and Cape Verde Shearwaters *Calonectris edwardsii* off Isle Ngor, Dakar, Senegal, October 1996 (B.A.E. Marr)